Amendments/To Claims:

Claims 1-72 cancelled.

73. (New) A method for identifying a protein having a desired activity, the method comprising:

(a) constructing a DNA library from unselected DNA molecules obtained directly from an environmental source;

(b) mutagenizing at least one member of the library, wherein one or more DNA molecules of the library are mutated;

(c) expressing the DNA molecules of the library to produce one or more proteins; and

(d) screening the proteins produced in (c) to identify one or more protein(s) with the desired activity.

74. (New) The method of claim 73, wherein the DNA molecules comprise genomic DNA.

75. (New) The method of claim 74, wherein the genomic DNA is at least about 38 kilobases to about 42 kilobases in length.

76. (New) The method of claim 74, wherein the genomic DNA is at least about 40 kilobases in length.

77. (New) The method of claim 73, wherein at least one of the DNA molecules comprises more than one open reading frame.

78. (New) The method of claim 73, wherein the desired activity is an enzymatic activity.

79. (New) The method of claim 78, wherein the enzymatic activity is hydrolase activity.

80. (New) The method of claim 78, wherein the enzymatic activity is alkaline phosphatase activity.

81. (New) The method of claim 78, wherein the enzymatic activity is beta-glycosidase activity.

82. (New) The method of claim 78, wherein the enzymatic activity is a polyketide synthetase activity.

83. (New) The method of claim 77, wherein the more than one open reading frames encode a complete metabolic pathway or a partial metabolic pathway.

84. (New) The method of claim 73, wherein each member of the library comprises a vector.

85. (New) The method of claim 84, wherein the vector comprises a viral particle, a baculovirus, a phage, a plasmid, a phagemid, a cosmid, a plasmid comprising a fertility (f)-factor (fosmid), a bacterial artificial chromosome, a viral DNA, or any combination thereof.

86. (New) The method of claim 84, wherein the vector comprises chromosomal DNA, non-chromosomal DNA or synthetic DNA.

87. (New) The method of claim 84, wherein the vector further comprises a regulatory sequence for effecting expression of at least a portion of the DNA molecule.

88. (New) The method of claim 73, wherein the environmental source comprises a sample obtained from an arctic location, an Antarctic location, a volcanic location or a tropical location.

89. (New) The method of claim 73, wherein the environmental source comprises a sample of soil, water, permafrost, or plant material.

90. (New) The method of claim 73, further comprising producing the identified one or more proteins of (d).

91. (New) The method of claim 73, wherein the screening comprises hybridization screening.

92. (New) The method of claim 73, wherein the screening comprises screening for the presence or absence of a reaction product.

93. (New) The method of claim 73, wherein the screening comprises screening for an enzymatic activity.